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ABSTRACT

The gap between theory and practice in the field of physical education is examined, with particular attention paid to the implications of the disparity for teacher training. Some learning and teaching objectives of physical education are discussed, and the importance of a firmly established and cooperative relationship between teacher and pupil is stressed. (LH)

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Teaching physical activities: the gap between the theory and the practices on the field

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It is hard to deny the existence of a gap between the body of theoretical knowledges taught to the future professional of physical education and the practices on the field or in the gymnasium.

I shall point out some of these differences and look for the means used to deal with these differences in teacher training.

Differences between theory and teaching physical education and practices on the field

Theory has benefited from a wide pluridisciplinary development based on a research often limited to academic problems. This research occasionally deals with teaching problems. These problems rarely find their origin in professional practice. It is then understandable that teachers do not perceive their value. They doubt the usefulness of many knowledges required in their initial training.

The practice of teaching physical education has found some sources of inspiration in the theory and practice of top level sport training and has adopted and adapted efficient training techniques: interval training, isometrics, weight training, power training...

We must recognize that there exists no fundamental gap between theory and practice in sports training. Objectives, means and evaluation are in agreement. It seems that this is the main source of the continuous improvement of sports training.

Objectives of physical education

The renewal of teaching programmes and teaching strategies places objectives in the perspective of a new society characterised by dynamic aspects as opposed to a fixed and static society.

Generally, these programmes propose to lead the student to autonomy and to self conduct, so that he may play an independent role in society.

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Let us examine the way in which these objectives are seen by different kinds of professionals of physical education. Do the initiators of the programmes see the objectives in the same way as the teachers apply them? Do teachers and students agree on the objectives to follow?

In 1957, Clifton found some agreement on objectives between several categories of people involved in the educational process: students, parents, teachers, physical education teachers. They agreed on objectives such as improving physical fitness, enjoying physical exercise, learning to work in a group, developing sportsmanship. But on 19 proposed objectives, 11 were seen differently by the people questioned [6].

The American Alliance for Health Physical Education and Recreation developed a conceptual framework of objectives oriented in three ways: [a] man master of himself, [b] man in space, [c] man in a social world [17].

Laplanche used a modified Delphi Technique to compare the perception of physical education objectives by curriculum theorists, human movement researchers, city-county supervisors in physical education, state directors of physical education and teachers. These professionals viewed the objectives in a unique way, there was a significant difference between present and future ratings. The author suggested that "physical educators identify a difference in the education of young people to live and play in today's world and the education to enable them to cope with a changing and unstable future" [18].

Two other studies in the United States have given interesting facts concerning the perception of physical education objectives by students and teachers.

De Troye used a questionnaire technique for ranking the objectives. The subjects were 350 students and 18 teachers. The author pointed out significant differences between male and female students, between male and female teachers, between teachers and students. These ones ranked first the objectives of physical fitness and teachers preferred the cooperation competition [10].

By a semantic differential technique, Chapman compared the affective (likeability) and cognitive (utility) dimensions of the objectives of the A.A.H.P.E.R. conceptual framework of students in different grades. Here again, the author observed important differences in the perception of objectives in the various groups [5].

These inquiries on objectives of physical education show mainly divergences between teachers and students. The traditional objectives of physical fitness remain preponderant. The objectives corresponding to the principles of programmes renewal: communication, group interaction, cultural insertion are not considered as very useful. They produced very few choices in the affective dimension except for teamwork [5]. It seems to be difficult to pursue objectives on which teachers and students do not agree.

Teacher - Pupil relationship

In many programmes this relationship is theoretically placed under Rogers conceptions of empathy, congruence, and unconditional acceptance. Moreover some programmes have proposed a non directive rela-

tionship. Has a new teacher-pupil relationship occurred? Or simply is it only a matter of theory forgotten as soon as the teacher enters the gymnasium?

We analyzed the teaching behavior of male and female student teachers at the University of Liège in order to get an image of the teacher-pupil relationship.

In the first, the system used was a system derived from Flanders Interaction Analysis System [13]. It comprises sixteen behavior categories for the teacher and the pupil. Mainly focused on verbal interactions the system also took into account some non verbal behaviors as demonstrated by pupil oriented activity [21, 22].

A discordancy was observed between the methodology and the knowledges taught to the student-teachers, and the interactions of the group (23). This difference can be seen in the ratio between direct and indirect influence. The first one accounted for 85% of verbal interactions in the class. The indirect influence represented 15% of the verbal interactions. However, we must remember that indirect influence is not always the most efficient approach.

Most of teacher's statements are made by lecturing and giving directions which point out the predominance of the controlling and impositive functions in teaching physical education.

Feedback and reinforcements accounted for less than 10% of the tallies [22].

Our data was largely confirmed by Nygaard's observations on American teachers. He observed a more traditionalistic image of the high school physical education teacher: 90% lecture and directions [20].

An another study shows that the student teacher behavior lacked flexibility [24].

The renewal of teaching strategies in physical education can be summarized as a shift from a teacher centered teaching or a means centered teaching to a pupil centered teaching.

The passage from the first two teaching styles to the third one seems to be at the point of the gap observed.

Let us examine those means used in teachers' education in order to bridge the gap between the theory and practice of teaching physical education. I shall try to evaluate their effectiveness.

The decision making process seems to be a good place to start this discussion. Dayly teaching practice depends on a continuous interaction of decisions taken by the teacher and his pupils.

A sports pedagogy pursuing autonomy and innovation cannot admits a routine of practice, based only on content. Systematic observation of the student, in a teaching-learning situation becomes an essential element in the teacher's decision-making.

The training of the student-teacher in the decision-making process is based on observation by the pupils and the teacher as to appropriate and effective behavior. The future teacher must know what is to be observed, how to observe, and how to deal with these observations. The essential elements of knowledge is this concept and it will be used to interpret the observations. It is an interesting link between theory and practice.

Observation and change of behaviors

Educational taxonomies

Educational taxonomies have been used as a technique of student observation. They contribute to better understand the complex mechanism of the learner behaviors facing a learning situation, under several aspects: cognitive, affective, psychomotor.

The development of taxonomies for psycho-motor objectives actually remains limited. Bloom's and Krathwohl taxonomies were adapted by Jewett [16] and Verhaegen [28] for the objectives of the psycho-motor domain. Jewett also used her taxonomy to write behavioral objectives [16].

It seems useful to note an experience on the use of taxonomies. Mullan [19] instructed an experimental group of student teachers concerning the more important taxonomies: Bloom (1956), Krathwohl, Bloom and Masia (1964), Simpson (1966) and Jewett (1971). In the comparison with student-teachers having a more traditional program of training, the instruction in educational taxonomies improved the observation and the perception of the children learning behaviors. It was also concluded that: "those student teachers instructed in educational taxonomies responded during interactions with pupils with significantly more reflexive actions, than student teachers not so instructed".

One of main reproach to educational taxonomies is some lack of reliability [9].

Behavioral objectives

Our interest in pupil observation find an other application in using behavioral objectives; they correspond to a preoccupation of teaching efficiency.

A behavioral objective is characterised by the fact that it is expressed in terms of action for the student or in terms of learning acquisitions.

In practice formulation of behavioral objectives requires two basic elements: an observable behavior and a performance criterion. The teacher must assess the actual level of the behavior to be acquired by the pupil. He will select appropriate means to lead him to the desired behavior.

This kind of objective allows a joint prediction and process criterion of teaching. As far as behavioral objectives are concerned Treble concluded:

"1. student learning is not enhanced by the use of behavioral objectives;

2. development of concepts is facilitated through teaching methods which utilize behavioral objectives;

3. while behavioral objectives do not seem to influence retention over relatively short period of time, they do seem to improve retention over an extended period of time" (27).

Critical incident

The critical incident technique is used to point out peculiar behaviors to make predictions concerning a student performing an act. It reveals pupil behaviors and associate these behaviors to those of the teacher.

"An incident is any observable human activity which is sufficiently complete in itself to permit inferences and predictions to be made about the person performing the act. To be critical, an incident must occur in a situation where the purpose or intent of the act seems fairly clear to the observer and its consequences are sufficiently definite so that there is little doubt concerning its effects [12].

To be useful a critical incident must be a detailed description of a behavior observed in a specific teaching situation. Moreover it must be a critical reflexion of effective and ineffective teaching behavior in physical education.

Using this research technique Arnsdorff identified effective and ineffective behaviors of women physical education teachers as perceived by P. E. teachers and their students (high school girls). The author examined to what extent P. E. teachers and their students agreed in their perceptions of effective teacher behaviors [2].

Teachers showed more concern to planning and organizing learning experiences, to presentation of teaching materials, to control of student behavior, to use of pupil leadership and personal qualities as voice, ethical relations with pupils and consistency in their relations with those ones.

Students were more concerned with guidance of learning experiences, with teacher personal qualities, related to alertness, cheerfulness and impartial treatment of students.

Teachers and students agreed on some topics such as use of supportive motivational technique, the value of a specific instruction and some personal qualities.

Interaction analysis

Changing the image of teaching as we know it to better fit theory and practices is only feasible in modifying many behaviors and attitudes of the teacher.

Systematic observation of the teacher-pupil interaction would identify appropriate behaviors and teaching patterns or at least give a feedback to the teacher. It must allow an estimate of the degree of agreement between the interaction and the teacher's philosophy of teaching the requirements of the curriculum.

I already noted that teaching analysis gave an image of teaching that did not correspond to present tendencies of a pupil centered teaching. There is a considerable difference between the ideal expressed by the teacher and the practices on the field.

Hughley [15] and Rife [25] showed that a feedback issued from an analysis of teaching can modify several behaviors during student-teaching experiences. In reaction to that feedback, student-teachers changed their teaching behavior in a desirable direction in lowering [a] the proportion of teaching acts, [b], the amount of managerial in-

formation, [c] the time devoted to monitoring and in increasing positive feedbacks and positive reactions to on task behaviors.

Rushall confirmed the possibility of changing the teaching behavior through teaching analysis. But when stopping the feedback, a partial return to previous behaviors occurred [26]. This can be explained in two ways; habits are so strong that a long duration treatment must be applied and it is also possible that some kinds of treatment are too superficial to produce long term effects. The low number of subjects involved in these studies and the short duration of the treatments make necessary to follow an intensive investigation of the topic.

Teacher behavior and attainment of goals by pupils are in strong relationships. Pupils learn more from situation in which teachers show some behavior flexibility passing from a direct approach to an indirect approach. Comparing teaching styles, Dougherty observed that:

1. a command style of teaching making use of a direct approach showed more efficiency when the aims were physical fitness or when the teaching period was of short duration.

2. when the period was longer and pursued other aims, a task style or an individualized teaching program style favouring indirect approach produced better results.

3. students preferred more freedom in the class and a broader variety of teaching procedures.

A better balance between the two influences should induce a more democratic relationship, according to the theory [11].

Teaching analysis can help the modeling of techniques used in teacher training and allow the identification of behaviors and abilities produced through microteaching.

Modeling

J. Brunelle and coll. used two kinds of modeling:

1. symbolic modeling in which the model to follow is presented in a written form,

2. perceptual modeling in which a model is presented in an audio-visual form [4]. These authors investigated the cumulative influence of three categories in teacher training: symbolic modeling, perceptual modeling and role playing.

Cumulation of methods, associating perception and task practice were found to be the most important [4].

Microteaching

D. Allen et K. Ryan [1], Barr [3] listed teaching abilities. Some of these can be used in teaching physical education. Teaching analysis identified other abilities. Micro-teaching contributes to modify teaching behaviors. That is the hypothesis verified by Graham [14] in a comparative study of the effects of micro-teaching. Four groups of student-teachers took part in the experience:

- the first tried to develop his ability to give individual feedback to learners, through micro-teaching.

— the second tried to develop his ability to improve the optimum exercise time, also through micro-teaching.

— a third group served as subject for groups one and two.

— a fourth group acted as a control group.

Micro-teaching significantly contributed to increase the amount of feedback in group one. Group two is slightly superior to other regarding the practised ability. However, it will be noticed that the greater amount of feedback had no effect on pupil learning.

Action research

It aims to solve a particular problem through an experimental approach. Its use implies an identification of the problem, its analysis and recording of a first series of objective data, the formulation of an hypothesis, an experience and an evaluation. It starts with practice and associates teachers and reseachers.

Conclusions and implications in teacher training

Teaching is no more a simple transmission of knowledges and abilities but has become a pursuit of students self conduct. It should open oneself to innovation: teacher training cannot become a static model.

According to the quick obsolescence of knowledge, initial training will have little validity if it is only an accumulation of facts and knowledges.

Initial teaching training would take an orientation following two axes.

1. Development of a receptive attitude towards action or development research. To test innovations, adapt strategies and methodologies and in general for action research a close cooperation between searchers and teachers have to be developed on numerous occasions. It must be prepared and organized as soon as the initial training [8].

2. Student teaching or internship must be prepared by a systematic training in behavior analysis, in evaluation, and self-evaluation of educational practice.

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